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PN - JP63166522 A 19880709

PD - 1988-07-09

PR - JP19860312477 19861227

OPD - 1986-12-27

TI - CYLINDRICAL OBJECT MADE OF FIBER REINFORCED RESIN

IN - HASHIMOTO HISANORI;TAMURA MORIO; SHIKASUMI YASUO

PA - HITACHI CONSTRUCTION MACHINERY ARISAWA SEISAKUSHO KK

IC - B29C67/14 ; B29D23/22

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TI - Fibre reinforced plastics pipe used e.g. as vehicle driving shaft - is mfd. in process where fibre reinforced outer cylinder is moulded over cured inner cylinder formed on mandrel, prior to removal of mandrel

PR - JP19860312477 19861227

PN - JP63166522 A 19880709 DW198833 012pp

- JP3036660B B 19910603 DW199126 000pp

PA - (ARIA) ARISAWA SEISAKUSHO KK

- (HITT) HITACHI CONSTR MACHINERY CO LTD

IC - B29C67/14 ;B29D23/22 ;B29K105/08 ;B29L23/00

AB - J63166522 The inner cylinder of the pipe is moulded by winding resin impregnated filaments on the mandrel. After the inner cylinder is subjected to curing, the fitting with the pins is mounted and fixed on the end of the inner cylinder. Then, the resin impregnated filaments are wound round both the fitting and the inner cylinder under the proper tension using the pins so that the outer cylinder is moulded. After curing, the mandrel is drawn out of the moulded fibre reinforced plastic pipe.

- USE/ADVANTAGE - Both the fitting and the inner cylinder are firmly fixed and reinforced by the outer cylinder in a fibre reinforced plastics pipe. The fibre reinforced plastics pipe can be used e.g. as the driving shaft of a vehicle or the tube of a hydraulic cylinder.(0/6)

OPD - 1986-12-27

AN - 1988-232165 [33]

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AP - JP19860312477 19861227

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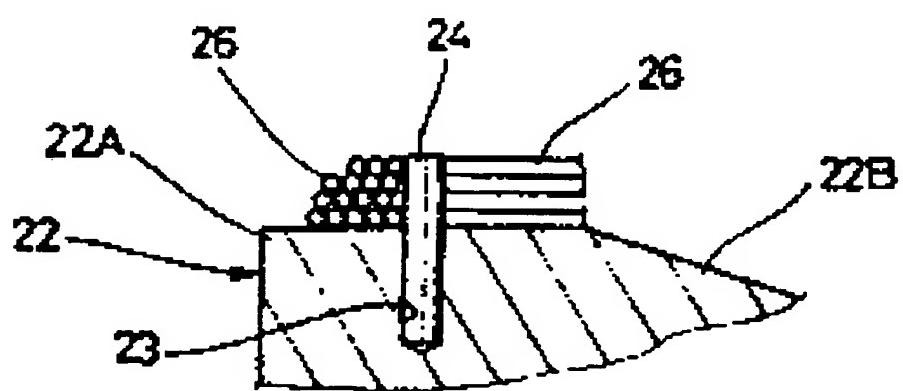
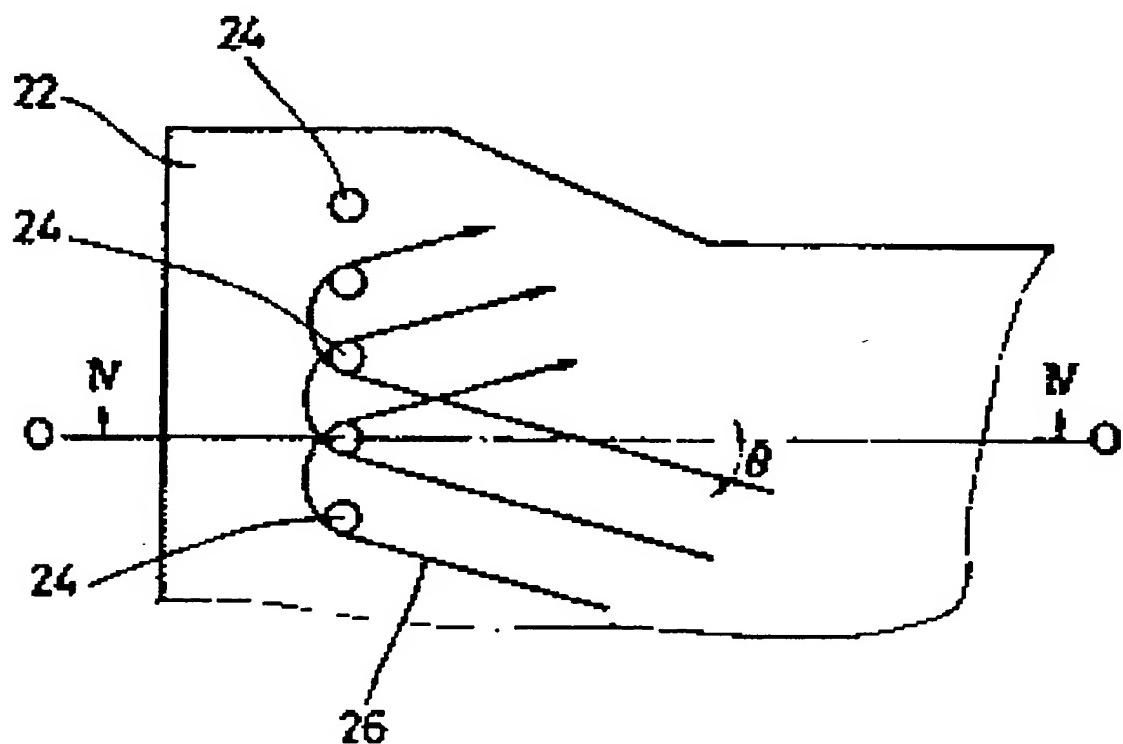
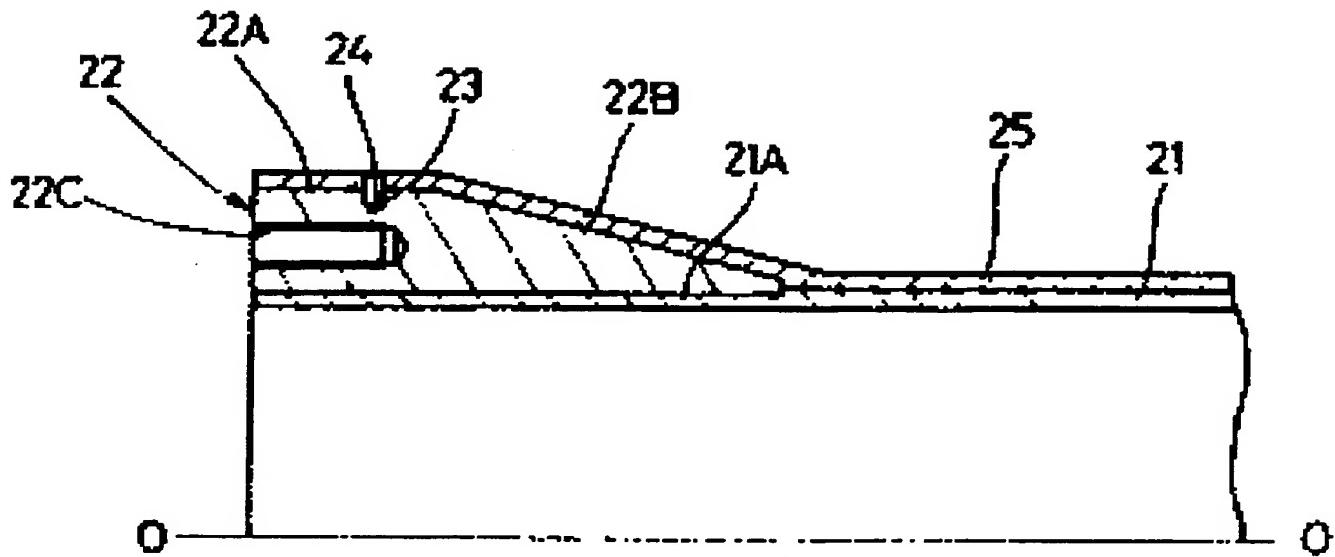
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- IN - HASHIMOTO HISANORI; others02
- PA - HITACHI CONSTR MACH CO LTD; others01
- TI - CYLINDRICAL OBJECT MADE OF FIBER REINFORCED RESIN
- AB - PURPOSE: To improve the fatigue resistance and shock resistance of a cylindrical object, while preventing the drawing out of a fitment member from an outer cylinder by a method in which a hanging part is provided at the fitment member fitted onto the end part of an inner cylinder in axial direction, and then the fiber material impregnated with resin is wound on the entire range from the outer peripheral surface of the inner cylinder to the outer peripheral surface of the fitment member, while hanging the fiber material on said hanging part and thus an outer cylinder is formed.
- CONSTITUTION: The fitment member22 which is formed with fiber reinforced resin and is fitted onto the both end sides of inner cylinder 21 in axial direction, is made with metal or ceramic material, and is provided with a cylindrical cover, with the intermediary of a bolt fixed with screw in a screw hole22. The pin 24 of metallic material is fixedly inserted into the small hole 23 of the member 22, and its projected side forms a hanging part so as to hang fiber material 26 and wind it reversely. An outer cylinder 25 is formed by winding the string-form fiber material26 impregnated with resin on the entire surface from the outer surface of the inner cylinder 21 to the outer peripheral surface of the cylindrical part 22A of each member 22.
- SI - B29C67/14
- I - B29D23/22

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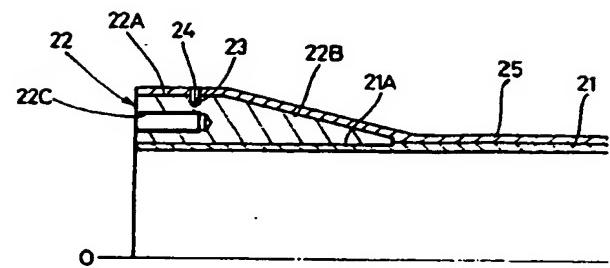
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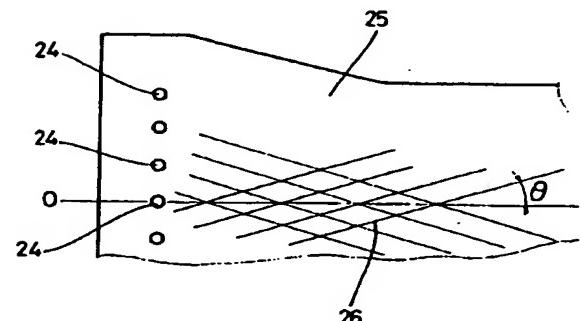
34, 43, 64, 74, 83, 94, 104…
 外筒、26…繊維材料、51…凸部、82…引掛け部、102…引掛け金具、102C…突起、
 111…プロペラシャフト、0…逆角。

特許出願人 日立建機株式会社
 同 株式会社石沢製作所
 代理人弁理士 広瀬和彦
 同 中村直樹

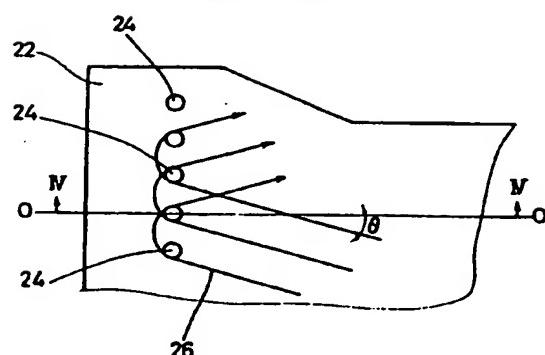
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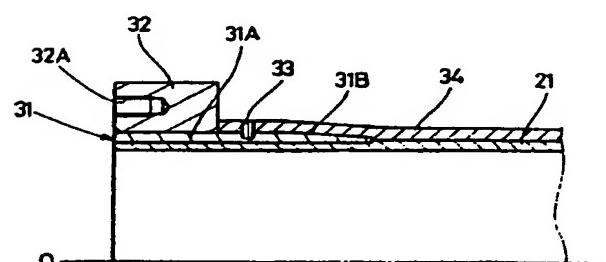
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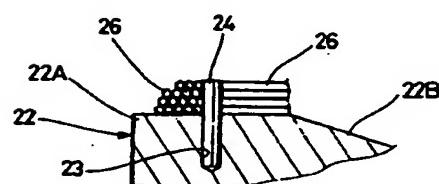
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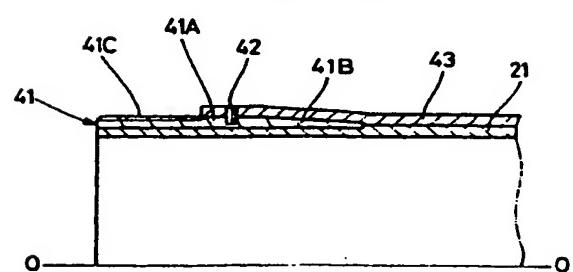
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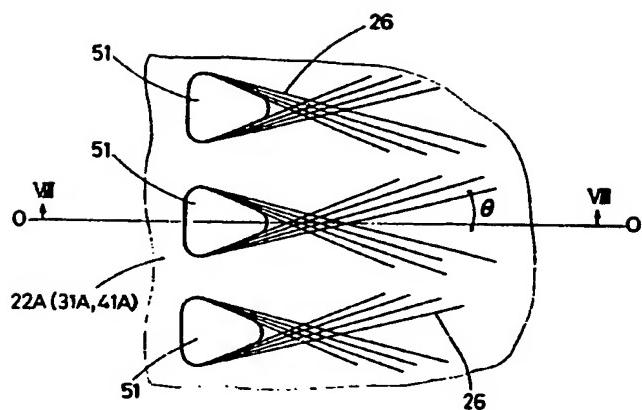
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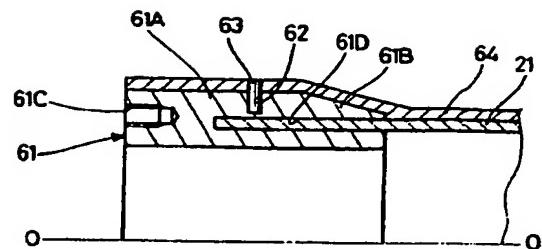
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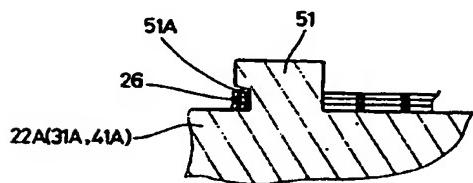
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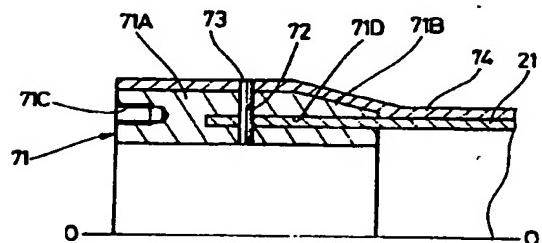
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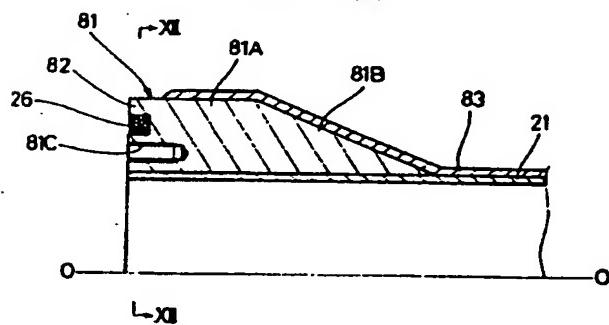
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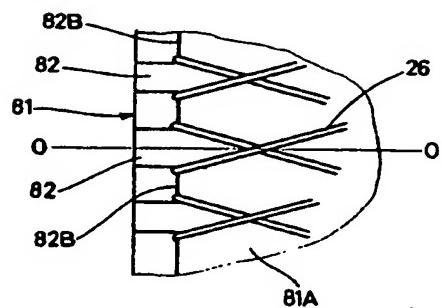
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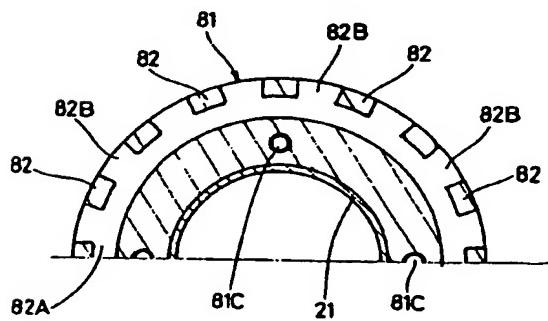
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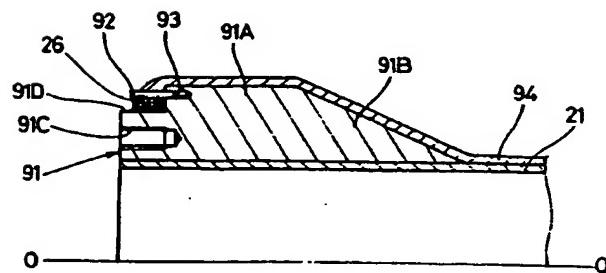
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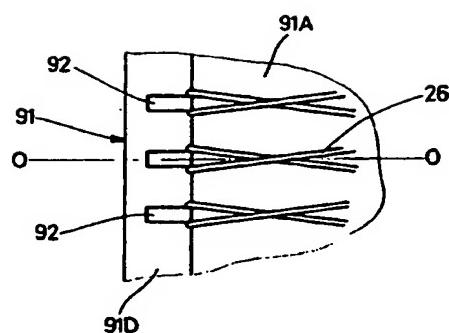
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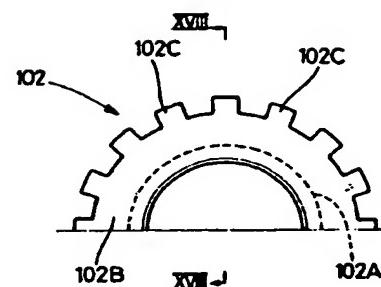
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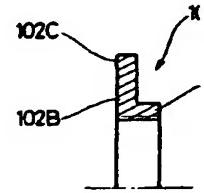
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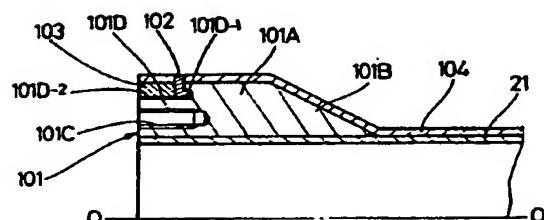
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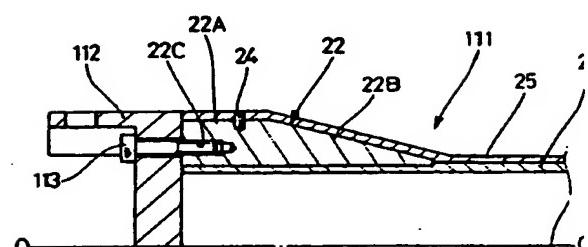
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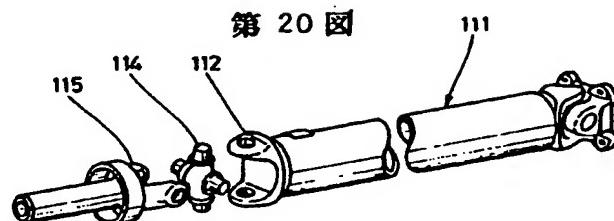
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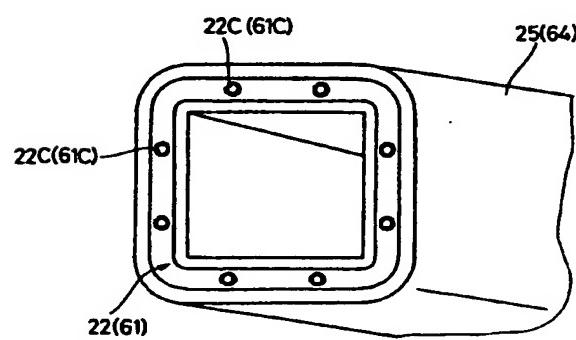
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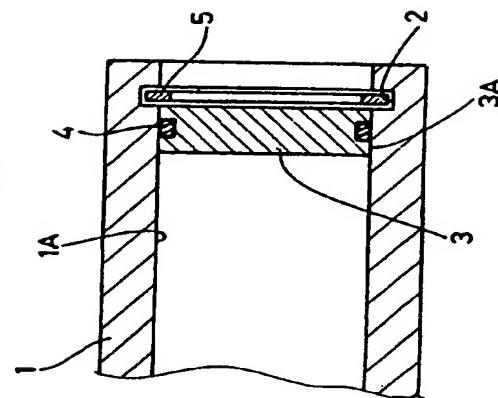
第 20 図



第 21 図



第 22 図



第 23 図

